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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FUREMAN, JARED	
ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 04/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/320,457	ISHII, KAZUO	
	Examiner	Art Unit	
	Jared J. Fureman	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 May 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Receipt is acknowledged of the amendment filed on 2/3/2003, which has been entered in the file. Claims 1, 2, and 4-11 are pending.

Claim Objections

2. Claims 7 and 11 are objected to because of the following informalities:

Claim 7, line 11: "the" should be replaced with --a--, in order to avoid a lack of proper antecedent basis for "the focus".

Claim 11, line 10: "the" should be replaced with --a--, in order to avoid a lack of proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Bridgelall et al (US 5,525,788, previously cited).

Bridgelall et al teaches a method of reading a symbol, comprising the steps of: conveying an article (3010) on a conveyor (3001 in figure 4), the article including at least one optical symbol (50) which is positioned on at least a front surface (the surface containing the symbol 50 as shown in figure 4) of the article; reading the at least one optical symbol by: detecting at least the front surface of the article (using article sensor

3100), calculating a distance (the range) from an optical symbol reader (40) to at least the front surface of the article, continuously adjusting a focus of the optical symbol reader based on the calculated distance to at least the front surface without time delay based on conveyor speed (during scanning the scanner 40 generates feedback signals, including focus and range, and microprocessor 10 utilizes the feedback signals to make scanner adjustments), and sensing the at least one optical symbol with the optical symbol reader (a valid scan of the symbol) (see 1, 2, 4, 25, column 1 lines 28-45, column 4 lines 34-65, column 6 line 18 - column 7 line 40, column 7 line 54 - column 9 line 34, column 10 line 62 - column 11 line 41, column 14 lines 46-55, column 19 lines 5-36, and column 20 lines 20-34).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al in view of Inagaki (JP 3-1285, previously cited), and Nishimura et al (US 5,436,439, previously cited).

Bridgelall et al teaches an optical symbol reading device and method comprising: an image data input section including an image data input unit (scanner 40) for receiving a bar code label (50) on an article (3010) that is moved by a conveyor, an image data input focus point modifier (a program running within CPU 150 of

microprocessor 10 in cooperation with pattern generator 20), an article detector (article sensor 3100) for detecting that the article has entered a read zone, an interpreter for converting electric signals from the image data input section to electronic signals representative of at least one of numbers and characters as interpretation results (the microprocessor 10 performs decoding of the symbol into number/characters), an interpretation result output section for outputting the interpretation results of the interpreter to an external device (output section 130 of the microprocessor 10 outputs signals to external circuits), a front surface position detector (belt speed indicator 3000, article sensor 3100) for continuously detecting a position on the conveyor of a front surface of an article as the article is moved by the conveyor to provide data indicative of continuously changing positions of the article, an image data input focus point control section (input processing section 110 within microprocessor 10) for outputting data from the front surface position detector to the image data input focus point modifier, the image data input focus point modifier continuously adjusting the focus point of the front surface reading device based on the data from the front surface position detector (the microprocessor continuously makes adjustments to scanner 40 using feedback signals, including range), the continuous adjusting being made without time delay based on conveyor speed; the image data input focus point control section including means for converting front surface position data of the article that are received from the front surface position detector to a reading distance (range), which is the distance between the image data input unit and the front surface of the article, and outputting the reading distance as focus point data to the image data input focus point modifier; the image data

input focus point modifier including means for matching the focus point to the front surface of the article that moves constantly over time by setting the focus point to a position designated by the focus point data that are received from the image data input focus point control section (the operating parameters, including range/working distance, of the scanner 40 are optimized using the feedback signals) (see 1, 2, 4, 25, column 1 lines 28-45, column 4 lines 34-65, column 6 line 18 - column 7 line 40, column 7 line 54 - column 9 line 34, column 10 line 62 - column 11 line 41, and column 20 lines 20-34).

Bridgelall et al fails to teach the image data input section including a front surface symbol reading device and back surface symbol reading device, and means for reading two surfaces, a side surface/back surface or a side surface/front surface, of an article moved by a conveyor by fixing a focus on a position of the side surface and reading the side surface when receiving a bar code label on the side surface of the article from the image data input unit.

Inagaki teaches an optical symbol reading device and method comprising: an image data input section (first reading mechanism 6) which includes a front surface symbol reading device (reader 3-2) and back surface symbol reading device (reader 3-1), and means (readers 3-1 and 3-2 in combination with readers 1-1 and 1-2) for reading two surfaces, a side surface/back surface or a side surface/front surface (see figures 1-3 and the translation of the abstract).

In view of Inagaki's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the system and method as taught by Bridgelall et al, the image data input section including a front surface symbol reading

device and back surface symbol reading device, and means for reading two surfaces, a side surface/back surface or a side surface/front surface, of an article moved by a conveyor by fixing a focus on a position of the side surface and reading the side surface when receiving a bar code label on the side surface of the article from the image data input unit, in order to provide a system where a bar code can be read irrespective of an arranged position of a article.

Bridgelall et al as modified by Inagaki fails to specifically teach a front surface/back surface position detector for continuously detecting a position on the conveyor of both a front surface and a back surface of an article that is moved by the conveyor, the front surface/back surface position detector including means that is provided with a light projection position detector and a light reception position detector made up of a plurality of transmissive multiple optical axis sensors, for finding the position of the front surface of the article by detecting which transmissive multiple optical axis sensors of the plurality of transmissive multiple optical axis sensors of the light projection position detector are being shielded by the article, each of the optical axis corresponding to a different position along a conveyor, determining which of the plurality of optical axis are shielded by the article, detecting the leading edge of the front surface, and detecting the trailing edge of the back surface.

Nishimura et al teaches an optical symbol reading device and method including: a front surface/back surface position detector (article location detector 12) for continuously detecting a position on the conveyor of both a front surface and a back surface of an article that is moved by a conveyor, the front surface/back surface position

detector includes means that is provided with a light projection position detector and a light reception position detector made up of a plurality of transmissive multiple optical axis sensors (light sources 34a-34k and light interceptors 35a-35k), for finding the position of the front surface of the article by detecting which transmissive multiple optical axis sensors of the plurality of transmissive multiple optical axis sensors of the light projection position detector are being shielded by the article, each of the optical axis corresponding to a different position along a conveyor, determining which of the plurality of optical axis are shielded by the article, detecting the leading edge of the front surface, and detecting the trailing edge of the back surface (see figures 1-8, column 3 line 63 - column 4 line 35, column 5 line 62 - column 6 line 14).

In view of Nishimura et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and method, as taught by Bridgelall et al as modified by Inagaki, to include a front surface/back surface position detector for continuously detecting a position on the conveyor of both a front surface and a back surface of an article that is moved by the conveyor, the front surface/back surface position detector including means that is provided with a light projection position detector and a light reception position detector made up of a plurality of transmissive multiple optical axis sensors, for finding the position of the front surface of the article by detecting which transmissive multiple optical axis sensors of the plurality of transmissive multiple optical axis sensors of the light projection position detector are being shielded by the article, each of the optical axis corresponding to a different position along a conveyor, determining which of the plurality of optical axis are

shielded by the article, detecting the leading edge of the front surface, and detecting the trailing edge of the back surface, since it is an art recognized functional equivalent to sensing the presence of the article and sensing the belt speed to determine the articles position (see column 5 line 62 - column 6 line 14 of Nishimura et al), as taught by Bridgelall et al.

7. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al as modified by Inagaki, and Nishimura et al, further in view of Rando (US 5,869,827).

The teachings of Bridgelall et al as modified by Inagaki, and Nishimura et al have been discussed above.

Bridgelall et al as modified by Inagaki, and Nishimura et al, fails to specifically teach conveying an article including a first optical symbol on a front surface and a second optical symbol on a back surface, reading the first and second optical symbols while conveying the article.

Rando teaches a method for reading an optical symbol, comprising the steps of: conveying an article including a first optical symbol on a first surface and a second optical symbol on a second surface, reading the first and second optical symbols while conveying the article (see figures 2, 6B, column 3 lines 40-42, column 5 lines 41-61, and column 11 lines 32-51).

In view of Rando's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the system and method as taught by Bridgelall et al as modified by Inagaki, and Nishimura et al, conveying an article

including a first optical symbol on a front surface and a second optical symbol on a back surface, reading the first and second optical symbols while conveying the article, in order to ensure accurate identification of the article.

Response to Arguments

8. Applicant's arguments filed 2/3/2003 have been fully considered but they are not persuasive.

The examiner agrees that Smith et al introduced a delay based on conveyor speed, thus Smith et al is no longer being applied. However, upon further consideration, it is believed that Bridgelall et al does teach continuously adjusting the focus point of the symbol reading device without time delay based on conveyor speed. Bridgelall teaches that feedback signals are used to adjust the operating parameters of the scanner 40 while scanning (see column 6 lines 25-43, column 9 lines 22-34, and column 19 lines 5-36). The feedback signals include beam focus and range (see column 6 lines 29-37), and the operating parameters include working distance from the symbol 50 (see column 6 lines 38-43). The working distance will be continuously changing as the article is conveyed on the conveyor. Thus, at least during the time that the scanner is operating, the focus point of the scanner 40 is being continuously adjusted without any time delay based on conveyor speed.

Furthermore, it is unclear as to how applicants define the limitations "continuously adjusting the focus point". While the specification teaches that the position of the article is continuously detected by the front surface/back surface position detector, it is unclear as to how the continuous focusing is being performed. For

example, is the continuous focusing being performed until a valid decode of the symbol is obtained and then stopped, or is the focusing being performed as long as the position of the article is being detected by the front surface/back surface position detector regardless of when a valid decode of the symbol is obtained? Thus, without any greater specificity as to "continuously adjusting the focus point", the teachings of Bridgelall et al (continuously adjusting the focus point during scanner operation) meet the claimed limitations when interpreted as broadly as is reasonable possible.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared J. Fureman whose telephone number is (703) 305-0424. The examiner can normally be reached on 7:00 am - 4:30 PM M-T, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (703) 305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jared J. Fureman
April 18, 2003